

Chapter 2, FM 23-10

1932

WAR DEPARTMENT

BASIC FIELD MANUAL

Volume III
BASIC WEAPONS

PART FIVE
COMBAT PRACTICE FIRING

1932

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BASIC FIELD MANUAL



Volume III BASIC WEAPONS

PART FIVE COMBAT PRACTICE FIRING

Prepared under direction of the
Chief of Infantry



**UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON : 1932**

For sale by the Superintendent of Documents, Washington, D. C.

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O.C.A.# 19464385-

WAR DEPARTMENT,
WASHINGTON, May 26, 1932.

Part Five, Combat Practice Firing, Basic Field Manual, Volume III, Basic Weapons, is published for the information and guidance of all concerned.

[A. G. 062.11 (4-13-31).]

BY ORDER OF THE SECRETARY OF WAR:

DOUGLAS MACARTHUR,

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II

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Signal Corps Field Manual. (S. C. F. M.)

- Vol. I. *Signal Corps Troops.*
 II. *Signal Corps Operations.*

FOREWORD

Basic Field Manual, Volume III, Basic Weapons, will be published in six parts as follows:

PART ONE. Rifle company. (Each chapter of Part One will be published as a separate pamphlet.)

Chapter 1. Rifle marksmanship.

2. Automatic rifle marksmanship.
3. Automatic pistol marksmanship.
4. Instruction with the bayonet.
5. Instruction with hand and rifle grenades.
6. Musketry.

PART TWO. Fire-control instruments.

Chapter 1. Machine-gun instruments.

2. 37-mm. gun and 3-inch trench mortar instruments.
3. Care, repair and adjustment of instruments.

PART THREE. Machine-gun company.

Chapter 1. Mechanical training with the machine gun.

2. Machine-gun marksmanship.
3. Technique of machine-gun fire.
4. Barrages and concentrations.

PART FOUR. Howitzer company.

Chapter 1. Mechanical training with the 37-mm. gun and the 3-inch trench mortar.

2. 37-mm. gun and the 3-inch trench mortar marksmanship.
3. Technique of the 37-mm. gun and the 3-inch trench mortar fire.

PART FIVE. Combat practice firing.

Chapter 1. General.

2. Rifle company.
3. Machine-gun company.
4. Howitzer company.

PART SIX. Antiaircraft marksmanship—Infantry weapons.

Chapter 1. General.

2. Rifle and automatic rifle.
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BASIC FIELD MANUAL

VOLUME III

BASIC WEAPONS

PART FIVE

COMBAT PRACTICE FIRING

(The matter contained herein supersedes TR 240-20, June 6, 1923 (including C1, February 15, 1926, and C2, January 2, 1929).)

CHAPTER I

GENERAL

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SECTION I

GENERAL

1. **Definition.**—*Combat practice firing* is that form of training wherein a tactical unit solves a problem involving a tactical situation in which service ammunition is fired at an enemy represented by suitable targets.

2. **Place in training.**—Combat practice firing is the last phase of firing instruction, and requires the practical application of the knowledge acquired in all steps of preliminary combat training.

3. **Purpose.**—The purpose of combat practice firing is to further instruct leaders in the control of their units in battle, and the soldier in the performance of his duties in combat, as a member of a fighting team, so as to secure the maximum fire efficiency.

4. **Scope.**—A course in combat practice firing should include situations involving the unit in attack, defense, and the service of security. Special emphasis should be given to exercises in the attack.

5. **Ammunition.**—Combat practice firing is conducted with service ammunition. Problems conducted with blank ammunition are not properly a part of combat practice firing but they

may be presented as a part of the preliminary training for rifle units. The use of service ammunition adds reality to the exercise, makes fire control more difficult, emphasizes the necessity for thorough training, and enables the effect of fire to be observed. The allowances of ammunition are given in Army Regulations.

6. Company commanders.—Responsibility for the preparation and training of units of his command in combat practice firing rests upon the company commander. He will normally prepare and conduct the problems for the elements of his company. Problems of a more formal nature involving tests, or competitions between elements of different companies, will be conducted by an officer designated by higher authority.

7. Umpire's report.—The umpire's report constitutes the record of each combat practice firing problem and this will be transmitted for file with the records of the company. A report will be made on each combat practice problem involving the use of live ammunition and this should be prepared immediately upon conclusion of the problem in order to insure a correct narrative of the performance. The form given below may be used as a guide in the preparation of such reports. The form is also useful as a reminder of the many points to be covered in the critique.

UMPIRE'S REPORT FORM

(Place) (Date)

1. A combat practice firing problem (or proficiency test) was conducted for ----- on ----- at -----
 (unit firing the problem) (date)

----- A copy of the problem is attached hereto.
 (place)

2. The details of performance are as given below:

a. The problem started at ----- and was concluded at -----
 (time)

-----, making an elapsed time of -----
 (time) (minutes)

b. *Reconnaissance.*—Method, scope, use of ground and cover, time required.

c. *Approach march and deployment.*—Route, formations, security measures, use of ground and cover, use of transportation, conduct of scouts, distance covered, time, rapidity of deployment.

d. *Orders of leader.*—Substance, method of issue, place of issue, clarity, transmission to subordinates.

e. *Initial firing position.*—Suitability, method of occupation, use of ground and cover, preparation of firing position, position of leaders, disposition of transportation.

f. Fire action of unit.—Range determination, target designation, preparation of firing data, fire orders of all leaders, method of opening fire, fire distribution, rate of fire, transmission of orders and signals, adjustment of fire, fire discipline and control, and application of lessons of marksmanship.

g. Subsequent action.—Reconnaissance of leader, fire and movement, use of ground and cover, going out of action, use of transportation, occupation of new firing positions and time required, replacement of casualties, salvage of ammunition, switching fire, engaging new targets, pursuit, withdrawal, organization for defense.

h. Performance of subordinates.—Use of ground and cover; orders; teamwork; aggressiveness; efficiency in matters of drill, technique of fire, and mechanical training.

i. Supply.—Arrangements for ammunition, water, and spare parts.

j. Statistical—

- (1) Time of actual firing.
- (2) Rounds fired at each target group.
- (3) Hits on each target group.
- (4) Percentage of hits.
- (5) Percentage of figures hit.

k. Weather conditions.—Visibility, wind, observation of fire.

3. My conclusions regarding the combat proficiency exhibited by the unit in this instance are:

a. The solution offered would (would not) have been successful had the conditions been real instead of assumed. (If not, give reasons.)

b. The combat proficiency of the unit at the present time is satisfactory (unsatisfactory). (State any specific needs for further training.)

(Signed) -----

(Grade and organization)

Umpire.

SECTION II

RANGES

8. *Terrain.*—The availability of ground largely determines the question of the selection of terrain for combat ranges. Where possible, varied ground of large extent suitable for the employment of long-range machine-gun and howitzer fire should be selected. It is a great advantage for instructional purposes to select ground with which the personnel of the unit engaging in combat practice firing is unfamiliar. In the absence of other facilities the known-distance ranges can be used by framing the problem so as to start the exercise off the range and require the delivery of fire on the range and in a safe direction.

9. *Targets.*—*a.* Targets may be extemporized from available material or may be those furnished by the Ordnance Department. Natural features of the terrain sometimes offer suitable

targets. The allowances of targets and target accessories provided by the Ordnance Department are given in AR 760-400.

b. With the field targets furnished by the Ordnance Department, a stationary target may be represented by lines or groups of E and F targets on staves. When there are pits of suitable depth, an E target on a long stick in the hands of pitmen may be used to represent an enemy who appears and quickly dis-

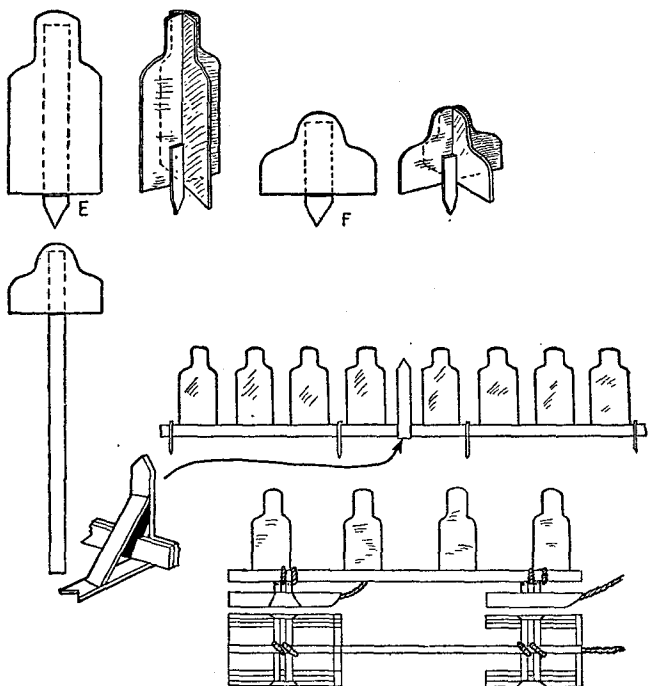


FIGURE 1.—Field targets

appears. The same effect may be obtained with lines of targets, either E or F, placed on the I-beam apparatus and operated by a man in a pit. Moving effects with field targets may be obtained by constructing towed sled targets of various kinds. These targets are shown in Figure 1.

c. In placing field targets they should be located in positions that would likely be used by an intelligent enemy and not

prominently exposed or in a regular line. Various expedients may be used to keep the targets out of sight at the beginning of the exercise and the exposure indicated by the firing of blank ammunition or the operation of other noise or smoke-producing equipment in the vicinity of the targets. Targets may be placed so as to be entirely invisible to the naked eye but visible with field glasses, so that skill is necessitated in designating the target and adjusting the fire.

d. The appearance of the targets from the firing line depends a great deal upon the direction of the sun, the background of the targets, and the angle at which the targets are placed. These points should be taken into consideration in placing the targets for any particular exercise.

10. Shelter.—Combat practice firing ranges can be efficiently operated without an elaborate system of shelters and dugouts. Simple pits of suitable size to accommodate the required number of men are sufficient. The use of pits is usually the best solution to the problem of shelter. If other means are employed, assurance should be made that the cover is sufficient for safe protection. Care should be exercised to avoid altering the natural appearance of the terrain in the location and construction of pits. Their location, with reference to the targets, should be such as to provide protection against enfilading or oblique fire. If the targets are placed in rear of or to one side of the pits the likelihood of ricochets falling into the pit is minimized. Pit details should be cautioned to keep close to the forward protecting wall and well down below the parapet of the pit.

11. Communications.—On permanent ranges the range officer or signal officer will be in charge of the installation and upkeep of the necessary telephone communication. On extemporized ranges the communication between the firing line and the pit may be by wire lines temporarily laid or by flag, rocket, or bugle signals. The officer in charge of a firing exercise will take the necessary steps to insure proper communication and the expeditious conduct of the problem. The use of improvised periscopes by personnel in the pits enables them to observe for signals without exposure and consequent danger of accident.

12. Safety.—*a.* The range officer is responsible that livestock has been removed from the danger area, that roads have been blocked, and that range guards or danger flags have been posted.

b. The officer in charge of the firing is responsible for the safe conduct thereof. He will see that weapons are not loaded or firing commenced before the range is clear, that the direction of fire conforms to local requirements for safety, and that fire is immediately ceased upon appearance of a danger flag from the pits.

c. In problems for rifle companies involving fire and movement, those participating in the movement will lock the rifles and withdraw the magazines from the automatic rifles during such movement. A specially selected officer or noncommissioned officer will act as safety officer to enforce the observance of these precautions and observe the firing of elements covering the advance. He will stop the fire of any weapons which in his opinion endanger the advanced elements.

d. Additional safety precautions are necessary for the cannon company because of the power of its weapons. The first precaution is that there will be no men, in the pits or otherwise, within 200 yards of the line of fire. The second precaution is that in firing at towed targets the towing vehicle will not be closer than 200 yards to the line of fire. As a further insurance against accident an officer or noncommissioned officer will be designated as safety officer and will take position in rear of the gun to observe the line of fire and prevent accidents that might be incurred as a result of wrong laying or other unforeseen circumstances.

SECTION III

CONDUCT OF TRAINING

13. General.—*a.* Practical combat practice firing instruction, like marksmanship, requires ranges, equipment, and supplies that must be prepared or obtained in advance. Instructors must know thoroughly these details of instruction as well as the combat principles and firing technique of the units being instructed. The time required for this preparation will depend largely on the conditions and facilities at the post or camp where the instruction is to be given. Unless sufficient time is allowed the instruction will suffer.

b. The value of the course will depend largely upon the interest of the participants. Interest is aroused by variety, competitions, tangible evidence of the result of fire, and the exercise of ingenuity on the part of the instructor.

c. The scheme of instruction should be progressive and start with the lower units.

14. Methods.—Instruction in combat practice firing is best imparted by means of demonstrations, fire problems, competitions, and proficiency tests.

a. Demonstrations.—The use of demonstrations by specially trained units is an excellent method of showing quickly the proper actions in combat firing. It must be understood, however, that all problems can not be solved alike and that there is usually more than one satisfactory solution to a problem. The application of combat principles and the technique of fire are the points to be particularly noted in demonstrations. Certain problems may be executed by one unit while other units observe. Where terrain is limited and the same problem is to be given to all units of an organization in turn, much value can be derived from having units completing the exercise observe the solutions of others. In demonstrations the good and bad points of execution should be pointed out to the observers at the time of commission.

b. Fire problems.—Combat practice firing problems present the nearest approach to actual battle conditions that is encountered in the whole scheme of military training. The exercises should be so designed that the leader is required to make an estimate of the situation, arrive at a decision, issue orders to put his decision into effect, and actually supervise the execution of his orders. The degree of skill and teamwork of the unit is shown by the manner in which the orders of the leader are executed.

c. Competitions.—Competitions may be conducted near the end of the course after the troops have had some experience in combat practice firing. This stimulates interest and gives the participants the incentive to apply the instruction received and avoid mistakes under fear of penalty. It becomes necessary, therefore, to devise means of determining the relative proficiency of units. Obviously, there is no way in which to grade a unit mathematically on all points of performance and the relative proficiency of units is therefore a matter of judgment. The judgment may be rendered by the umpire, or by a board of officers convened for the purpose, after a consideration of all factors of the problem and a comparison of the solutions given by the units participating.

d. Proficiency tests.—(1) Proficiency tests constitute the examination phase of combat practice firing instruction and are held at the conclusion of the firing season. Such problems are usually of a more advanced nature than the elementary problems given at the beginning of the course and are presented in a more formal manner. A unit required to fire a proficiency test will be given at least one such test annually at the end of the regular combat practice season. They form a basis for estimating the quality of the technical and tactical training of the unit and its battle efficiency. The test is preferably held on ground unfamiliar to the troops, and steps should be taken to insure that they do not get any advance information concerning the details of the problem.

(2) Except as noted in (1) above, a proficiency test is no different from any other combat practice firing problem. They will be held when directed by the post, regimental, or other appropriate commander and conducted by an officer or board of officers designated by the same authority. The judging, keeping of records, and rendition of reports will be as prescribed herein for other combat practice firing problems. A copy of the report will be forwarded through channels to the company commander for file with the records of the company.

15. Preparation of problems.—*a.* Combat practice firing problems must be suitable to the actual terrain upon which they are conducted. Imaginary terrain features will not be introduced. The location and mission of adjacent units and supporting troops, or troops being supported, should be carefully explained and their positions outlined by flags or other means if necessary. The problems should be designed to develop initiative on the part of leaders and rapid teamwork on the part of units. Skill and ingenuity in the preparation of problems are necessary in order that they may be logical and clearly impress the lessons to be learned.

b. In the preparation of a combat practice firing problem the following requirements should be observed:

(1) A mission should be readily determinable from the situation.

(2) There should be simplicity in framing the situation. When it is desired to embody several lessons in the same situation, the exercise should be divided into distinct phases in order that the greatest benefit may be derived from the expenditure of ammunition.

(3) A definite tactical principle should be involved and a specific lesson in fire tactics included in each problem, or each phase or episode of a continuing situation.

c. In combat practice firing exercises the action of the leader is limited to a considerable extent. Safety precautions may confine the direction of fire to a narrow zone; where varied terrain is not available, the flat ground of known distance ranges will have to be used; and economy in the expenditure of ammunition is almost always necessary.

d. In framing a problem it is divided into two parts. The first part contains all information necessary for the leader's complete understanding of what is required of him, but it does not contain information that would probably be lacking were the conditions real instead of assumed. The second part contains such additional information as may be required by the umpire, his assistants, and the range officer to enable them to arrange the targets, conduct the critique, and write the report. The following form is suggested:

(1) *Part One.*

(a) *Unit.*—A designation of the unit and its organization; that is, squad, section, or platoon, peace strength or war strength. This should be given out in advance.

(b) *Equipment.*—A statement of the personal or organizational equipment to be used, the amount of ammunition, transportation, water, rations, etc. Field equipment should be prescribed in all exercises involving ammunition. This should be given out in advance.

(c) *Situation.*—A presentation of the tactical situation. This must contain all the pertinent information which a unit would have under conditions of actual campaign.

(d) *Requirement.*—This is usually the actions and orders of the leader and the execution of the orders by the unit.

(e) *Restrictions.*—A statement of such limitations in the interest of safety, protection of property, and economy of time and ammunition as may be necessary.

(f) *Remarks.*—A statement of anything necessary to be known by the leader not included under the above headings.

(2) *Part Two.*

(a) *Object.*—The particular tactical and technical lessons to be imparted.

(b) *Points for criticism.*—A statement of the special points to be brought out by the exercise which should form the basis for the critique. The umpire's report form given in paragraph 18 may be used as a reminder in selecting special points for criticism.

(c) *Preparation of range.*—A statement of all information relative to placing the targets, posting range guards, assignment of pit details, representation of friendly troops, and means of communication.

(d) *Remarks.*—A statement of any necessary information not included under the above headings.

e. Suggested situations for problems are given in Chapters 2, 3, and 4, and these may be used as a basis for preparing problems in accordance with the available facilities at the place of firing.

16. *Presentation of problems.*—a. All combat practice firing problems will be supervised by an officer who is known as the umpire. The duty of the umpire is to conduct the exercise, observe the performance, conduct the critique, and record the method and results in a report. He will be provided with the necessary number of assistants whose duties will be prescribed by him.

b. After all preliminary arrangements have been made and everything is in readiness to proceed with the problem, the leader is oriented on the ground, the situation explained, and the requirement made known. The leader then explains the situation to his unit and by questioning various men insures that the problem is thoroughly understood by all. If any units are to observe the conduct of the exercise the umpire should see that they are also made familiar with the situation. The leader then proceeds with his solution. In the earlier stages of training, the value of the instruction may be increased by suspending the exercise and commenting upon errors at the time they are made. In the later stages, however, and particularly when the problem is given as a test or in a competition the exercise should be permitted to continue regardless of errors. As a general rule the umpire will interfere as little as possible during the progress of the exercise, the leader being allowed to solve the problem in his own way and required to abide by his own mistakes and those of his subordinates.

17. Judging solutions.—The decision of the umpire as to the amount of credit to attach to any given solution of a combat practice firing problem must follow as a logical result of the answer to the self-directed question, "had these assumed conditions been real, is it probable or improbable that the solution would have accomplished the mission?" There are many shades of proficiency between unqualified success and flat failure. In judging the solution of a tactical problem which includes the firing of live ammunition, the umpire must differentiate between failures which result from a nonobservance of tactical principles and those which result from a lack of technical knowledge or skill. He must be careful not to base his judgment of an exercise only on the number of hits obtained. The proper use of ground and cover is of great importance. An assistant umpire viewing the conduct of the troops from the enemy position by means of an improvised periscope is well situated to pass judgment on this point. Such matters as maintenance of direction, fire orders, fire discipline and control, and other points covered in the umpire's report form (par. 7) should also be given consideration.

18. Critique.—*a.* The basis of all good instruction is intelligent, tactful, and constructive criticism. This principle should be the aim of the critique. It is given by the umpire after receiving the reports from his assistants and constitutes a discussion of the solution offered and a comparison with other possible solutions. It is best given on the ground immediately after the conclusion of the exercise and covers the points given in the form for reports. (Par. 7.)

b. An officer conducting a critique should commend what was well done and call attention to what was poorly or incorrectly done. Where errors have been committed, a correct solution should be given in such a manner that the whole unit concerned will be benefited by the criticism. In making corrections the instructor should avoid ridicule, sarcasm, or any remarks which might be harmful to interest or initiative or might lead to a dread of responsibility in the minds of the men.

c. Much depends upon the personality of the umpire for it will often be his duty to call attention to errors and faults that may be due to lack of judgment, lack of knowledge, or lack of skill. His method should be such as to give no offense

to his hearers. The illustration of principles and intelligent criticism depends solely upon the ingenuity and alertness of the umpire. The tactical significance of the exercise must be kept foremost in the discussion. Effort should be made to picture the situation as it would be were it real instead of assumed. As much of the battlefield confusion and turmoil as possible should be brought to mind. Failures to apply tactical principles properly are often due to a lack of imagination on the part of the troops and to a misconception as to the nature of modern combat.

d. The critique should not convey the impression that there is only one correct method of solving the problem. Such a misconception is apt to lead to the adoption of fixed forms, a playing up to the ideas of the umpire, and a resulting destruction of initiative and independent thought.

CHAPTER 2

RIFLE COMPANY

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SECTION I

GENERAL

19. Preliminary training.—*a.* Combat practice firing will be given only after the units have had a thorough course in the combat principles pertaining to the unit, have completed marksmanship, and are proficient in musketry.

b. Instruction in combat principles can be given very effectively by means of tactical walks and sand table problems. The training immediately preceding actual firing should be in the nature of preliminary exercises, for all squads and sections, covering various combat situations. Blank ammunition can be used to advantage in some of these exercises.

20. Units to fire.—All squads and sections of each company will be required to engage in combat practice firing when local facilities permit. Separate problems will be given for each of these units when ammunition allowances are sufficient. Platoon and company problems should not be fired because the individual soldier does not receive the attention and instruction given him in squad and section problems.

21. Time required.—A thorough course of training will require from 30 to 35 hours. When time and range facilities are very limited, a course may be restricted to a minimum of about 16 hours. Such a course would not permit of all squads of a company receiving practical experience in firing all the exercises, but would necessitate each squad receiving part of its instruction by observation of other units firing.

22. Rifles.—When class B rifles are available they should be used for firing tracer ammunition because of its injurious effect.

SECTION II

SUGGESTED SITUATIONS FOR PROBLEMS

23. Purpose.—The various situations suggested herein are not complete problems but are offered as a basis for the preparation of problems in accordance with the form given in paragraph 15*d*.

24. Attack—*a*. (1) *Object.*—To teach the combat principles of a squad in attack.

(2) *Situation.*—A section in attack has been checked by fire. The center and left squads are in a firing position and engaging the target while the right squad maneuvers by covered route to the flank. The right squad has advanced under cover to within about 300 yards of the enemy where further advance without fire is impossible.

(3) *Requirement.*—Actual performance of duties, including issuance of necessary orders, by all personnel of the squad in order to carry out its mission.

(4) *Solution.*—The squad attacks by the maneuver of a portion of the squad under the protective fire of the remaining members.

b. (1) *Object.*—To teach the combat principles of a section in the approach march and attack.

(2) (*a*) *Situation I.*—The section is advancing in section column with one or two pairs of scouts out in front. Enemy artillery fire begins to fall across the company zone of action in front of the section.

(*b*) *Requirement.*—Actual performance of duties, including issuance of necessary orders, by all personnel of the section in order to carry out its mission.

(c) *Solution*.—The section leader advances the section as fast as possible in a less vulnerable formation, using methods prescribed in combat principles for the section.

(3) (a) *Situation II*.—The section deployed in squad columns advances a short distance when it receives long-range machine-gun fire coming from the left front directed at the center and left squads.

(b) *Requirement*.—Actual performance of duties, including issuance of necessary orders, by all personnel of the section in order to carry out its mission.

(c) *Solution*.—The section continues its advance; the leaders of the center and left squads advancing their units by such means as are appropriate to the situation.

(4) (a) *Situation III*.—The scouts have been stopped by fire from about a section of the enemy.

(b) *Requirement*.—Actual performance of duties, including issuance of necessary orders, by all personnel of the section in order to carry out its mission.

(c) *Solution*.—The section leader quickly estimates the situation, gives his fire order to the assembled squad leaders, instructs them relative to routes of approach and areas to be occupied, then controls the fire of his section when firing is begun. The squad leaders establish their squads in their assigned areas and engage the targets in conformity with the section leader's fire order.

c. (1) *Object*.—To teach the combat principles of the section in the continuation of the attack.

(2) (a) *Situation I*.—The attack is successful, and the enemy has been driven back from his first position. The section pursued the enemy by fire as long as he was within effective range.

(b) *Requirement*.—Actual performance of duties, including issuance of necessary orders, by all personnel of the section in order to carry out its mission.

(c) *Solution*.—The section leader covers the front with scouts. He regains control of the section, replaces the squad leaders and the section guide if they become casualties, and issues orders for the regrouping of the squads. The squad leaders get their squads in hand, replace casualties among the automatic riflemen and scouts, appoint seconds in command, and have ammunition salvaged from the casualties and redistributed to their squads.

(3) (a) *Situation II.*—The platoon leader issues orders for the continuation of the attack, the section advances, and the scouts gain contact with the enemy.

(b) *Requirement.*—Actual performance of duties, including issuance of necessary orders, by all personnel of the section in order to carry out its mission.

(c) *Solution.*—The section leader quickly estimates the situation, gives his fire order to the assembled squad leaders, instructs them relative to routes of approach and areas to be occupied, and controls the fire of his section when firing is begun. The squad leaders establish their squads in their assigned areas and engage the targets in conformity with the section leader's fire order.

25. Defense—*a.* (1) *Object.*—To teach the combat principles of a squad in defense.

(2) *Situation.*—The squad has been attacking and is suddenly ordered to halt and defend an area with a front of 75 yards. After a hasty organization of the ground, an enemy attack is launched.

(3) *Requirement.*—Actual performance of duties, including issuance of necessary orders, by all personnel of the squad in order to carry out its mission.

(4) *Solution.*—The squad leader quickly estimates the situation, assigns positions to all men of the squad, directs them to dig rough holes for protection, and gives definite instructions to all members of the squad in their duties in case of an enemy attack. When the enemy attack is launched the squad leader controls the fire of his squad. Automatic rifles must be kept in action.

b. (1) *Object.*—To teach the combat principles of a section in defense.

(2) *Situation.*—The section has been attacking and is suddenly ordered to halt and defend an area with a front of 200 yards. After a hasty organization of the ground, an enemy attack is launched.

(3) *Requirement.*—Actual performance of duties, including issuance of necessary orders, by all personnel of the section in order to carry out its mission.

(4) *Solution.*—The section leader quickly estimates the situation. He assigns each group a position from which it can cover *with fire* its own front and flanks and the front and

flanks of the groups on the right and left. He supervises the preparation for the defense. He instructs the section guide, squad, and group leaders in their duties in case of an enemy attack. When the enemy attack is launched the section leader observes and controls the fire of the various groups in the section.

26. Service of security—*a. Advance guard*—(1) *Object*.—To teach the combat principles of a squad acting as the point of an advance guard.

(2) *Situation*.—The squad is marching along a road or cross-country in a formation suitable for the point of an advance guard, conditions of terrain being considered. An enemy patrol appears at about 300 yards to the front and flank. The squad leader is instructed that the fire of that patrol is not directed at his squad and that the advance party is deploying.

(3) *Requirement*.—Actual performance of duties, including issuance of necessary orders, by all personnel of the point in order to carry out its mission.

(4) *Solution*.—The squad leader assigns one man to remain in observation to the original front and then conducts his squad against the enemy resistance.

b. Outpost*—(1) *Object.—To teach the combat principles of a section acting as a picket of an outpost.

(2) *Situation*.—The section leader has been directed to march his section to a road junction and form a picket of an outpost to cover both roads leading toward the enemy. After arrival, an enemy platoon launches an attack.

(3) *Requirement*.—Actual performance of duties, including issuance of necessary orders, by all personnel of the picket in order to carry out its mission.

(4) *Solution*.—The section leader sends out a point of three or four men and under cover of this protection marches the picket to its post. When the picket reaches its post the commander makes a quick estimate of the situation, assembles the picket (less the point) and issues the remainder of his order. In this situation the picket commander can establish a sentry squad to cover one road and a cossack post to cover the other. He gives instructions to all personnel of the section in their duties as members of a picket. Fire is opened when the enemy attack is launched.

CHAPTER 3

MACHINE-GUN COMPANY

Paragraphs

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SECTION I

GENERAL

27. Preliminary training.—*a.* Before engaging in combat practice firing, units must have had instruction in the operation and care of the machine gun, elementary and advanced gun drill, battery drill, care and handling of machine-gun transportation, cart drill, extended-order training, marksmanship, and so much of the technique of direct and indirect laying as will enable each man to perform his task and that of the man next above him. Noncommissioned officers and selected privates must, in addition, have had instruction in the care and operation of instruments and in the combat principles of the machine-gun section and platoon. The officer must be proficient in all subjects in which the soldier should be instructed, and in addition must know the principles governing the tactical employment of machine-gun units up to and including the company. He must be proficient in making simple tactical decisions and embodying such decisions in orders.

b. The time immediately preceding the firing of combat practice exercises should be devoted to training in direct and indirect laying and extended order. Preliminary exercises covering various combat situations should be conducted for all sections and platoons.

28. Units to fire.—All sections and platoons of each company will be required to engage in combat practice firing when local facilities permit. Separate problems will be given for each of these units when ammunition allowances are sufficient. Proficiency tests are conducted for platoons. Only those units in which at least 60 per cent of the personnel have completed the required instruction course in machine-gun marksmanship will fire.

29. Time required.—A minimum of 50 hours training time should be devoted to preliminary exercises and combat practice firing.

30. Proficiency tests.—Proficiency tests are only conducted for platoons. They will not be ordered unless the unit has completed the regular marksmanship course in machine-gun firing and has had training in combat practice firing.

SECTION II

SUGGESTED SITUATIONS FOR PROBLEMS

31. Purpose.—The various situations suggested herein are not complete problems but are offered as a basis for the preparation of problems in accordance with the form given in paragraph 15 *d*.

32. Attack—*a*. (1) *Object.*—To teach the support of an attack by overhead fire.

(2) *Situation.*—The assault platoons of a rifle company are temporarily held up in low ground by heavy enemy rifle and machine-gun fire from their right (left) front. The rifle company commander requests the leader of the supporting machine-gun platoon to neutralize the enemy fire. High ground exists in rear of the assault rifle platoon (300 to 1,000 yards).

(3) *Requirement.*—Decision of the platoon leader and execution by the platoon.

(4) *Solution.*—The platoon leader selects, directs, and supervises the occupation of positions on the high ground in rear of the assault rifle platoons. He determines fire data. Safety is checked, safety precautions are provided for, and the targets engaged.

b. (1) *Object.*—To teach the close support of a rifle company in attack by the echelonment forward of one section of a machine-gun platoon.

(2) *Situation.*—(A continuation of the situation given in *a* (2) above.) Under cover of the fire of the machine-gun platoon, the assault platoons of the rifle company have advanced up the next slope to within about 300 yards of their objective. The attack is apparently succeeding. The riflemen have masked the machine-gun fire.

(3) *Requirement.*—Decision, actions, and orders of the machine-gun platoon leader, and execution by the platoon.

(4) *Solution.*—The machine-gun platoon leader directs that one section go out of action, and move forward at once, by hand, in an appropriate extended order formation, to a definite

place where he will meet it. He orders the other section to remain in position to guard against counterattack. He then runs rapidly forward to reconnoiter for routes of advance, gun positions, and targets.

33. Defense—*a. Object.*—To teach the preparation of data to engage sector targets and fire final protective line fire at night, or in smoke or fog.

b. Situation.—A machine-gun section has just arrived to occupy positions selected by the platoon leader. The sector and final protective line have been pointed out and the section leader has been ordered to make preparations to fire at night. It will be dark in about 30 minutes.

c. Requirement.—Actions of section and squad leaders.

d. Solution.—(1) The section leader designates to the squad leaders the final protective line and the key points in the sector.

(2) Each squad leader lays his gun to fire upon the final protective line, zeroes the traversing dial, and clamps it tightly. He measures the QE and makes a note of the reading. He switches to lay on each key point in turn, measures the QE and records it, together with the reading of the traversing dial. He then makes a hasty range card upon which these data are recorded. If time permits he places aiming stakes to the front as an auxiliary means of laying during darkness upon predetermined targets.

NOTE.—Other preparation of the gun positions proceeds simultaneously with the preparation of range cards.

34. Service of security—Advance guard—*a. Object.*—To teach the support of the advance guard in the attack.

b. Situation.—A machine-gun platoon, attached to an advance guard of one rifle company is marching at the tail of the support. The advance party being unable to advance because of enemy fire, the advance guard commander decides to attack without delay and asks the support of the machine guns.

c. Requirement.—Actions and orders of the machine-gun platoon leader and execution by the platoon.

d. Solution.—The platoon leader makes a very rapid reconnaissance. Positions are occupied as rapidly as possible without sacrificing concealment and targets engaged. It is more important that the guns be mounted quickly in a position from which they can fire than that the positions selected be the best that could be found after an extended reconnaissance.

CHAPTER 4

HOWITZER COMPANY

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SECTION I

GENERAL

35. Preliminary training.—*a.* All platoons will be given adequate instruction in the following subjects, pertaining to the cannon company weapons, before undertaking combat practice firing:

Mechanical training.

Drill.

Marksmanship.

Technique of fire.

In addition they should have been instructed in the use of ground and cover and communications. The platoon leader, noncommissioned officers, and prospective noncommissioned officers must also be thoroughly familiar with combat principles for employment of the prescribed weapons.

b. Preliminary exercises in reconnaissance; selection, occupation, and preparation of positions; handling of transportation; communication; and ammunition supply should be held for squads, sections, and platoons. The squad leaders of the various gun squads should be taught to select targets, open fire, and switch fire on their own initiative. Situations should be varied so that at times the transportation may be used to a point near the gun positions, and at other times the guns will have to be manhandled into position. Practice in moving from principal to alternate and supplementary positions and opening fire quickly should be given gun squads.

36. Units to fire.—All squads, sections, and platoons of each company will be required to engage in combat practice firing when local facilities permit. Separate problems will be given for each of these units when ammunition allowances are sufficient.

37. Time required.—A minimum of 50 hours training time should be devoted to preliminary exercises and combat practice firing.

SECTION II

SUGGESTED SITUATIONS FOR PROBLEMS

38. Purpose.—The various situations suggested herein are not complete problems but are offered as a basis for the preparation of problems in accordance with the form given in paragraph 15 *d*.

39. Attack—*a. Object.*—To teach the employment of a cannon platoon in supporting the attack of an infantry battalion.

b. (1) Situation.—The platoon is attached to an infantry battalion. The platoon leader is given information of the enemy and the general plan of the battalion commander.

(2) Requirement.—The recommendation (after a few minutes allowed for reconnaissance) of the platoon leader for employment of the platoon weapons.

(3) Solution.—The platoon leader recommends positions for guns and mortars and targets to be engaged.

c. (1) Situation.—The battalion commander's attack order is dictated to the platoon leader.

(2) Requirement I.—The actions and orders of the platoon leader.

(3) Solution.—The platoon leader issues orders to his subordinates covering missions; occupation of positions; routes; selection of positions for platoon ammunition dump, command post, observation post, and cart parks; ammunition supply; plans for communications.

(4) Requirement II.—The actions and orders of members of the platoon in complying with the platoon leader's orders.

(5) Solution.—The platoon occupies positions and establishes communications; the gun commanders give fire orders and open fire on targets; the platoon sergeant supervises the establishment of ammunition supply.

d. (1) Situation.—The platoon leader is ordered to move his platoon forward and support the attack from new positions.

(2) Requirement.—The orders of the platoon leader and subordinates and actions of members of the platoon.

(3) Solution.—The platoon leader issues an order for forward displacement of the platoon. The platoon moves forward, occupies new positions, establishes communications, establishes ammunition supply, and opens fire on designated targets.

40. Defense—*a. Object.*—To teach the employment of a cannon platoon in a defensive situation.

b. (1) Situation.—The platoon is attached to an infantry battalion which has been assigned a sector to defend. The platoon leader is shown the line of resistance, boundaries, and outpost line. He is given any available information of the enemy and friendly troops and told the plan of artillery and machine-gun fire.

(2) *Requirement I.*—The platoon leader's actions and orders.

(3) *Solution.*—The platoon leader issues orders covering occupation and preparation of positions, routes, communication, ammunition supply, and assignment of initial targets.

(4) *Requirement II.*—Actions and orders of the members of the platoon.

(5) *Solution.*—The guns go into position and then fire on designated targets, communication is established, ammunition supply arranged, and disposition made of carts.

(6) *Requirement III.*—Switch of fire to subsequent targets.

(7) *Solution.*—The gun commander computes firing data for subsequently designated targets and opens fire on them.

c. (1) Situation.—The battalion withdraws to a rear defensive position. The platoon leader is ordered to move his platoon to positions in the rear.

(2) *Requirement.*—Orders of platoon leader, and execution of these orders by the platoon.

(3) *Solution.*—The platoon leader orders the platoon to move to the rear, and designates routes, order of movement, new communications, and disposal of ammunition. The platoon moves to and occupies the new positions in compliance with the leader's orders.

41. Service of security—*a. Advance guard*—(1) *Object.*—To teach the rapid employment of the cannon platoon in engaging targets of opportunity.

(2) *Situation.*—The platoon on transportation is a part of an advance guard. The advance guard commander orders the platoon leader to support the battalion during a meeting engagement by firing into a wooded draw and by covering a road.

(3) *Requirement I.*—The platoon leader's actions and orders.

(4) *Solution*.—The platoon leader orders the mortars into a position where they can cover the draw and the 37-mm. guns into position where they can cover the road.

(5) *Requirement II*.—Execution of the orders by the platoon.

(6) *Solution*.—The mortars and guns occupy positions designated in the order and open fire on their respective targets.

b. *Rear guard*.—(1) *Object*.—To teach the employment of the cannon platoon in a delaying action.

(2) (a) *Situation*.—The platoon is attached to a battalion acting as a rear guard. The rear guard commander directs the platoon leader to deliver fire on a sunken road which can not be covered by small-arms fire and to cover an improved road which leads to the battalion's position from a flank.

(b) *Requirement*.—The platoon leader's actions and orders.

(c) *Solution*.—The platoon leader directs the mortar into a covered position where it can fire on its designated target. He directs the 37-mm. gun into position where it can cover the improved road by direct laying, in order to fire on armored cars or patrols. Extra ammunition and carts are sent farther along the line of march where they will be picked up by the platoon later or will be available to furnish ammunition to the guns in their present positions. Fire is opened on the designated targets.

(3) (a) *Situation*.—The platoon leader is ordered to move the platoon to some position about 1,000 yards farther to the rear along the line of march.

(b) *Requirement*.—Actions and orders of the platoon leader and execution of these orders by the platoon.

(c) *Solution*.—The platoon leader directs the platoon sergeant to move the platoon in the direction of march of the main body along a designated route. The platoon leader moves out ahead of the platoon and reconnoiters for new positions for his weapons. The guns are brought up and put into the new positions and targets engaged.

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